



# **Antimicrobial Stewardship:**

## **Arizona Partnerships Working to Improve the Use of Antimicrobials in the Hospital and Community**

### **Part 14**

**“Antibacterials – indeed, anti-infectives as a whole – are unique in that misuse of these agents can have a negative effect on society at large. Misuse of antibacterials has led to the development of bacterial resistance, whereas misuse of a cardiovascular drug harms only the one patient, not causing a societal consequence.”**

**- Glenn Tillotson; Clin Infect Dis. 2010;51:752**

**“...we hold closely the principles that antibiotics are a gift to us from prior generations and that we have a moral obligation to ensure that this global treasure is available for our children and future generations.”**

**- David Gilbert, et al (and the Infectious Diseases Society of America). Clin Infect Dis. 2010;51:754-5**

# A Note To Our Readers and Slide Presenters

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The objectives of the Subcommittee on Antimicrobial Stewardship Programs are directed at education, presentation, and identification of resources for clinicians to create toolkits of strategies that will assist clinicians with understanding, implementing, measuring, and maintaining antimicrobial stewardship programs.

The slide compendium was developed by the Subcommittee on Antimicrobial Stewardship Programs (ASP) of the Arizona Healthcare-Associated Infection (HAI) Advisory Committee in 2012-2013.

ASP is a multidisciplinary committee representing various healthcare disciplines working to define and provide guidance for establishing and maintaining an antimicrobial stewardship programs within acute care and long-term care institutions and in the community.

Their work was guided by the best available evidence at the time although the subject matter encompassed thousands of references. Accordingly, the Subcommittee selectively used examples from the published literature to provide guidance and evidenced-based criteria regarding antimicrobial stewardship. The slide compendium reflects consensus on criteria which the HAI Advisory Committee deems to represent prudent practice.

# Disclaimers

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All scientific and technical material included in the slide compendium applied rigorous scientific standards and peer review by the Subcommittee on Antimicrobial Stewardship Programs to ensure the accuracy and reliability of the data. The Subcommittee reviewed hundreds of published studies for the purposes of defining antimicrobial stewardship for Arizonan clinicians. The Arizona Department of Health Services (ADHS) and members of its subcommittees assume no responsibility for the opinions and interpretations of the data from published studies selected for inclusion in the slide compendium.

ADHS routinely seeks the input of highly qualified peer reviewers on the propriety, accuracy, completeness, and quality (including objectivity, utility, and integrity) of its materials. Although the specific application of peer review throughout the scientific process may vary, the overall goal is to obtain an objective evaluation of scientific information from its fellow scientists, consultants, and Committees.

Please credit ADHS for development of its slides and other tools. Please provide a link to the ADHS website when these material are used.

# Introduction to Slide Section

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Reasons to Optimize Antibiotic Use

Pathways to a Successful ASP

Antimicrobial Stewardship: Making the Case

ASPs: Nuts & Bolts

Antimicrobial Stewardship: Measuring Antibiotic Utilization

Antimicrobial Stewardship: Daily Activities

Antimicrobial Stewardship: Computerized & Clinical Decision Support Services

Microbiology: Cumulative Antibigram & Rapid Diagnostics

Antimicrobial Stewardship Projects: Initiation & Advanced

Antimicrobial Stewardship Barriers & Challenges: Structural & Functional

Antibiotic Use in the Community

Opportunities to Justify Continuing the ASP

Antimicrobial Stewardship: Perspectives to Consider

Summary

- **Preface:**

A pathway to success requires a ‘culture change’ when applied to antimicrobial stewardship. Rather than summarizing ASPs another approach has been used in this “Summary” – getting everyone onboard to believe that disruptions to the current practices of using antimicrobials is a good thing and benefits everyone including patients.

- **Content:**

7 slides and two additional slides

- **Suggestions for Presentation:**

The “Summary” slide part can be used in many other sections. The focus is to emphasize the paradigm shift represented by antimicrobial stewardship. ‘Managing change’ is an important concept as the activities of the ASP equate to ‘benevolent disruptive innovation’.

- **Comments:**

The slides might be used to gain trust, add direction, and strengthen cohesion amongst healthcare workers and hospital administration for the ASP.

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# **SUMMARY**

# Kotter's Steps<sup>1</sup>: Managing Change

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- Step 1: Create a sense of urgency
  - Focus on patient safety and cost with hospital leaders
    - Local data regarding resistance and *C. difficile* infection
    - National recommendations and regulations
    - Current and potential examples of cost-savings
- Step 2: Form a powerful guiding coalition
  - Team of leaders who represent key stakeholders
  - Team member characteristics: position of power, expertise, credibility, leadership
- Step 3: Create a compelling vision for change
  - Potential vision statement: “Helping patients receive the right antibiotics when they need them”
- Step 4: Communicate the vision effectively
  - Communicate to all levels, including senior leadership, department heads, unit directors, prescribers
  - Communicate regularly

1 Kotter J. Harvard Business Review. 1995 (Mar-Apr):59-67

2 Morris A et al Healthcare Quarterly. 2010;13:64-70

# Kotter's Steps<sup>1</sup>: Managing Change (cont'd)

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- Step 5: Empower others to act on the vision
  - Work with units or teams to develop mutually acceptable approaches
  - Empower non-traditional decision-makers, such as pharmacists and nurses
- Step 6: Plan for and create short-term wins
  - Pick the low-hanging fruit, i.e., surgical prophylaxis and reduction in vancomycin use
  - Recognize the Team and the front-line staff as critical in making the changes
- Step 7: Consolidate improvements and create still more change
  - Continue project-based interventions
  - Avoid only performing reviews of antibiotic use – extend to outcomes
- Step 8: Institutionalize new approaches
  - Ensure there is institutional understanding of the positive results
  - Strive to have prescribers themselves be stewards of antimicrobials

1 Kotter J. Harvard Business Review. 1995 (Mar-Apr):59-67

2 Morris A et al Healthcare Quarterly. 2010;13:64-70

# Summary of Antimicrobial Stewardship: Structure Your Initiatives and Anticipate Barriers

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- One size does not fit all
- Perform a baseline assessment of assets, deficits; gather pilot data
- Address any deficits that will impede the basic program and fix first
- Pre-determine barriers and differentiate the real from the misunderstood
- Pro-actively address the valid obstacles
- Prioritize available resources as well as additional resources needed
- Choose reasonable, sequential initiatives that are practical and beneficial to the institution and will lead to a logical progression of next steps
- Bring in specialists but realize everyone has a stake in the program and ultimately in the patient
- Involve providers, encourage them, educate them, report back to them (good and bad)
- Cost-reduction of the antimicrobial budget is not a primary justification for antimicrobial stewardship, but cost-savings will be realized from ASP activities
- Create a campaign towards antibiotic stewardship; market the program



# **Appropriate Expectations: Maintain a Positive and Constructive Attitude**

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- Antimicrobial stewardship program development includes many complex activities which will require appropriate discourse, education, and sometimes compromise
- Focus will change as the program progresses through various stages, but maintain direction towards satisfying the mutually agreed-upon ASP goals
- Refrain from “changing the world” in one year or immediately after every initiative – some changes will occur quickly and others over many months or years
- Unexpected roadblocks will occur which impact the trajectory of the program and projects, or influence even the simplest ASP initiatives – some of these will be out of your control
- Attempt to anticipate these challenges through advanced planning and participate in working groups to understand the perspectives of clinicians in their departments
- Revel in the impact you have on improving patient outcomes

# Pathways to Success Summary: Antimicrobial Management in Hospitals Means A “Culture Change”

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- Programs can be successful but accountability of prescribers should be established – GET EVERYONE ON THE SAME PAGE
  - Antibiotic resistance poses health risks for patients and HCWs
  - Adopt a philosophy of accountability for antibiotic resistance
  - Create a campaign towards antibiotic stewardship
  - Everyone has a stake in the program
- Hospital administration and Med Exec should endorse the ASP
  - Provide commitment to the “new culture” and improve patient outcomes
  - Adequate resources committed to achieve cost savings and improved patient outcomes
- Face-to-face education and medical staff feedback should be ongoing
- Patient safety and quality care are interwoven into antibiotic resistance dilemmas, and the antibiotic stewardship team should operate under their auspices
- Create an optimal environment for acceptance of change and learning

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**ADDITIONAL SLIDES**

# Antibiotic Stewardship: Lessons Learned

- Several strategies, including prescriber education, formulary restriction, prior approval, streamlining, empiric treatment based on antibiogram data, and computer-assisted programs have been proposed to improve antibiotic use<sup>1</sup>
- Although rigorous clinical data in support of these strategies are lacking, the most effective means of improving antimicrobial stewardship will most likely involve a comprehensive program that incorporates multiple strategies and collaboration among various specialties within a given healthcare institution<sup>1</sup>

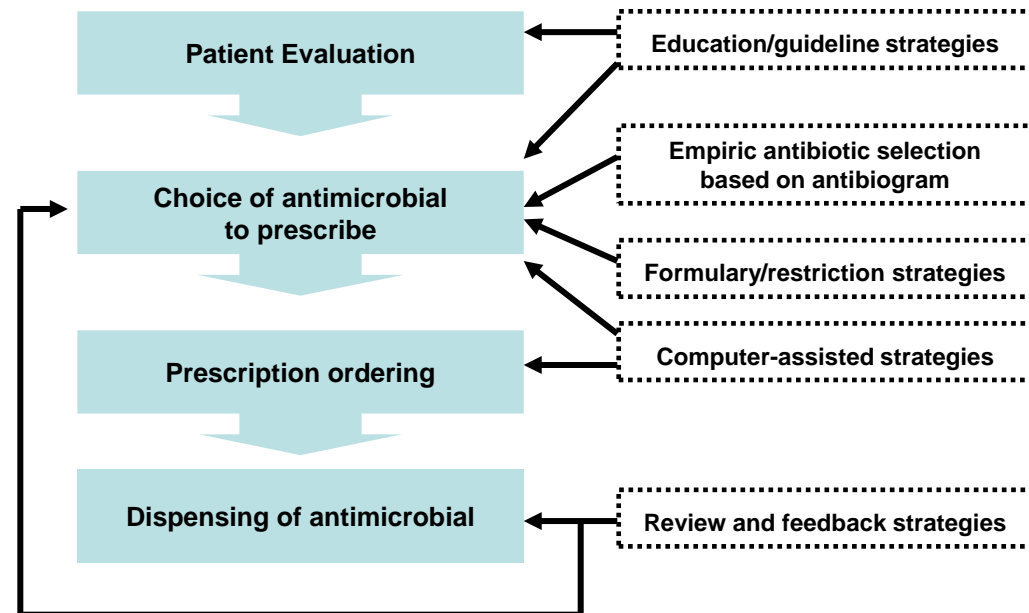


Figure adapted from: MacDougall C et al.. *Clin Microbiol Rev.* 2005;18(4):638-56.

<sup>1</sup> Fishman N. *Am J Infect Control.* 2006;34:S55-63.

# **Assess Organizational Capacity for Change (OCC): Adapt To New Opportunities and Create New Capabilities**

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- **Trustworthy leadership**  
The ability of administration to earn the trust of the rest of the organization and to show the members of the organization the way to meet its collective goals
- **Trusting followers**  
The ability of the organization's members to constructively dissent and/or enthusiastically follow a new path advocated by its leaders
- **Capable champions**  
The ability of an organization to empower change leaders to evolve and emerge
- **Involved management**  
The ability of managers to effectively link components of the organization
- **Innovative culture**  
The ability to establish norms of innovation and encourage innovative activity
- **Accountable culture**  
The ability to carefully steward resources and successfully meet deadlines
- **Systems communications and systems thinking**  
The ability to communicate vertically, horizontally, and with customers; the ability to focus on root causes and recognize the interdependencies within and outside the organizational boundaries